

Serial No. 10/695,953 . . . . . Page 2

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1-15 canceled.

16. (New) A method of scheduling tasks within a computing device, comprising the steps of:

a) maintaining a multi-level work queue of a plurality of waiting tasks awaiting scheduling, said waiting tasks being ordered in said multi-level work queue according to an associated priority;

b) scheduling tasks from the highest priority level of said work queue into a job queue, for scheduling a first task from said multi-level work queue into said job queue;

c) attempting to locate a selected task from within the job queue which is capable of being executed simultaneously with the first task, while considering only the tasks in said job queue with a priority equal to that of the first task; and

d) if such a selected task is located, replacing said selected task with a combined task that comprises the first task and the selected task for simultaneous execution.

17. (New) A processor for scheduling tasks within a computing device, comprising:

a) instructions for accessing a multi-level work queue of a plurality of waiting tasks awaiting scheduling, said waiting tasks being ordered in said multi-level work queue according to an associated priority;

b) instructions for scheduling tasks from said multi-level work queue into a job queue, commencing with the tasks with the highest priority;

Serial No. 10/695,953 . . . . . Page 3

c) instructions for attempting to locate at least one selected task from within the job queue which is capable of being executed simultaneously with a first task currently being scheduled, while considering only the tasks in said job queue with a priority equal to that of the first task; and

d) instructions for combining the selected task with the first task to form a combined task and replacing said selected task in said job queue with the combined task for simultaneous execution of said first task with said selected task, in the event that such a selected task is located.

18. (New) A software-readable medium containing instructions for scheduling tasks within a computing device, comprising:

a) instructions for accessing a multi-level work queue of a plurality of waiting tasks awaiting scheduling; said waiting tasks being ordered in said multi-level work queue according to an associated priority;

b) instructions for attempting to locate at least one selected task from within the work queue which is capable of being executed simultaneously with the first task and each task has an associated priority, and wherein the processor further comprises instructions for selecting as the first task a waiting task for which no other waiting task has a higher priority;

c) instructions for attempting to locate at least one selected task comprise instructions for considering only waiting tasks having a priority equal to that of the first task; and

d) instructions for combining the at least one selected task with the first task to form a combined task and scheduling the combined task, in the event that at least one selected task is located.

19. (New) A method of scheduling tasks within a computing device, comprising the steps of:

Serial No. 10/695,953 . . . . . Page 4

a) maintaining a multi-level work queue of a plurality of waiting tasks awaiting scheduling, said waiting tasks being ordered in said multi-level work queue according to an associated priority;

b) scheduling said waiting tasks from said multi-level work queue into a job queue;

c) determining whether the computing device has sufficient resources to execute a first task being currently scheduled;

d) if the computing device has sufficient resources to execute the first task, the method comprising the further steps of:

e) attempting to locate a selected task from within the job queue which is capable of being executed simultaneously with the first task, while considering only the tasks in the job queue that have a priority equal to that of the first task;

f) if such a selected task is located, replacing said waiting task with a combined task that comprises the first task and the waiting task for simultaneous execution of said first task with said selected.

20. (New) The method of claim 19 further comprising, if the computing device does not have sufficient resources to execute the first task, the steps of:

a) determining whether the first task is time sensitive;

b) if the first task is time sensitive, rejecting the first task; and

c) if the first task is not time sensitive, attempting to schedule a next task of the same priority as said first task before re-attempting to schedule the first task.

21. (New) A processor for scheduling a first task within a computing device, comprising:

Serial No. 10/695,953 . . . . . Page 5

a) instructions for accessing a work queue of a plurality of waiting tasks waiting scheduling;

b) instructions for determining whether the computing device has sufficient resources to execute the first task and for determining whether the first task is time sensitive, in the event that the computing device does not have sufficient resources to execute the first task;

c) instructions for attempting to locate at least one selected task from within the work queue which is capable of being executed simultaneously with the first task, in the event that the computing device has sufficient resources to execute the first task and for rejecting the first task, in the event that the computing device does not have sufficient resources to execute the first task and that the first task is time sensitive;

d) instructions for combining the at least one selected task with the first task to form a combined task and scheduling the combined task, in the event that the computing device has sufficient resources to execute the first task and that at least one selected task is located; and

e) instructions for attempting to schedule a second task before attempting to schedule the first task, in the event that the computing device does not have sufficient resources to execute the first task and that the first task is not time sensitive.

22. (New) A software-readable medium comprising instructions for scheduling a first task within a computing device, comprising:

a) instructions for accessing a work queue of a plurality of waiting tasks awaiting scheduling and for determining whether the first task is time sensitive, in the event that the computing device does not have sufficient resources to execute the first task;

b) instructions for determining whether the computing device has sufficient resources to execute the first task and for

Serial No. 10/695,953 . . . . . Page 6

rejecting the first task, in the event that the computing device does not have sufficient resources to execute the first task and that the first task is time sensitive;

c) instructions for attempting to locate at least one selected task from within the work queue which is capable of being executed simultaneously with the first task, in the event that the computing device has sufficient resources to execute the first task and for attempting to schedule a second task before attempting to schedule the first task, in the event that the computing device does not have sufficient resources to execute the first task and that the first task is not time sensitive; and

d) instructions for combining the at least one selected task with the first task to form a combined task and scheduling the combined task, in the event that the computing device has sufficient resources to execute the first task and that at least one selected task is located.

23. (New) A method of scheduling tasks within a computing system, comprising the steps of:

a) maintaining a multi-level work queue of a plurality of waiting tasks awaiting scheduling, said waiting tasks being ordered in said multi-level work queue according to an associated priority whereby tasks with the same priority are placed at the same level of said multi-level work queue, in order of their arrival;

b) selecting a waiting task from the highest priority level of said multi-level work queue and determining whether the computing device has sufficient resources to execute said waiting task; and

c) scheduling said waiting task into a job queue if said computing device has sufficient resources to execute said waiting task.

Serial No. 10/695,953 . . . . . Page 7

24. (New) A method as claimed in claim 23, further comprising, when said computing device has not sufficient resources to execute said waiting task:

d) attempting to schedule a next waiting task from said multi-level work queue, said next waiting task being selected to have the highest priority among said waiting tasks;

e) if said waiting task is not time sensitive, maintaining said waiting task into said work queue;

f) re-attempting to schedule said waiting task after said next waiting task has been scheduled; and

g) repeating steps a) to c) until said waiting task is scheduled.

25. (New) A method as claimed in claim 23, further comprising, when said computing device has not sufficient resources to execute said waiting task and said waiting task is time sensitive:

h) rejecting said waiting task; and

i) attempting to schedule a next waiting task from said multi-level work queue, said next waiting task being selected to have the highest priority among said waiting tasks.

26. (New) A method as claimed in claim 23, wherein step c) comprises:

c1) sending the job queue to locate a selected task which is capable of being executed simultaneously with the waiting task, while considering only the tasks in said job queue with a priority equal to that of the waiting task; and

c2) if such a selected task is located into said job queue, replacing said selected task with a combined task that comprises the waiting task and the selected task for simultaneous execution.